

What is claimed is:

1        1. A system for concurrently displaying respective images  
2 representing real-time data and non-real-time data, comprising:  
3            a source of signals representing real-time data;  
4            a source of signals representing non-real-time data;  
5            a display device for displaying images;  
6            a processor, coupled to the real-time data source, the non-  
7            real-time data source and the display device, the processor:  
8                  executing a windowing operating system  
9                  controlling the operation of an application program  
10                 for receiving non-real-time data and conditioning the  
11                 display device to display an image representing the  
12                 non-real-time data; and  
13                  executing a real-time display process,  
14                 independent of the execution of the operating system,  
15                 for receiving the real-time data and conditioning the  
16                 display device to display an image representing the  
17                 real-time data concurrently with the display of the  
18                 non-real-time data.

1        2. The system of claim 1, wherein:  
2            the real-time data signal source is a network with a  
3            specified latency limit; and  
4            the real-time display process receives the real-time data  
5            and displays the real-time data representative image within the  
6            specified latency limit.

1        3. The system of claim 1 wherein the real-time display  
2            process operates as a single thread.

1        4. The system of claim 3 wherein the real-time display  
2 process thread is assigned a priority higher than the  
3 application program.

1        5. The system of claim 3 wherein:  
2            the windowing operating system provides a graphics display  
3 interface for conditioning the display device to display a  
4 specified image; and  
5            the real-time display process thread provides instructions  
to the graphics display interface to display the real-time  
image.

1        6. The system of claim 1, wherein:  
2            the application program may malfunction such that the non-  
real-time data representative image obscures the real-time data  
representative image;  
3            the system further comprises a source of user input  
4 signals; and  
5            the processor, in response to a user input signal, reveals  
6 the real-time data representative image.

1        7. The system of claim 6 wherein the user input signal  
2 source comprises a keyboard, and the user input signal comprises  
3 a key combination.

1        8. The system of claim 6 wherein the user input signal  
2 source comprises a mouse, and the user input signal comprises a  
3 mouse click.

1        9. The system of claim 1, wherein:  
2            the windowing operating system maintains information  
3            relating to the availability of resources; and  
4            the processor further executes a monitor process for  
5            monitoring the resource information and for taking corrective  
6            action if the resource information indicate that the  
7            availability of a resource is below a predetermined level.

1        10. The system of claim 9 wherein the resource information  
2            maintained by the windowing operating system maintains comprises  
3            information related to:

4            memory resources;  
5            system resources;  
6            computer resources; and  
7            process resources.

1        11. The system of claim 9 wherein the corrective action  
2            taken by the processor comprises:

3            modifying execution parameters of the application program;  
4            terminating the application program; and  
5            sending a notification to the user.

1        12. A method for concurrently displaying respective images  
2            representing real-time data and non-real-time data, comprising  
3            the steps of:

4            receiving non-real-time data;  
5            receiving real-time data;  
6            executing a windowing operating system for controlling the  
7            operation of an application program responsive to the non-real-  
8            time data, for conditioning a display device to display

9       respective images representing the non-real-time data;  
10      executing a real-time display process, independently of the  
11     windowing operating system, for conditioning the display device  
12     to display respective images representing the real-time data  
13     concurrently with the display of the non-real-time data.

1           13. The method of claim 12 further comprising the step of  
2     executing the real-time display process as a single thread.

1           14. The method of claim 13 further comprising the step of  
2     assigning the real-time display process thread a higher priority  
3     than the application program.

1           15. The method of claim 13 wherein  
2     the windowing operating system execution step comprises the  
3     step of executing a graphics display interface to receive  
4     instructions for generating images; and  
5           the real-time display process execution step comprises the  
6     step of providing instructions to the graphics display interface  
7     to display the respective images representing the real-time data

1           16. The method of claim 12 further comprising the steps  
2     of, if the application program malfunctions such that the non-  
3     real-time data representative image obscure the real-time data  
4     representative image:  
5        receiving user input data; and  
6        revealing the real-time representative data in response to  
7     the user input data.

1        17. The method of claim 16 wherein the step of receiving  
2 user input data comprises the step of receiving a key  
3 combination from a keyboard.

1        18. The method of claim 16 wherein the step of receiving  
2 user input data comprises the step of receiving a mouse click  
3 from a mouse.

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19. The method of claim 12 wherein:

the step of executing the windowing operating system  
comprises the step of maintaining information relating to the  
availability of resources; and

the method further comprises the step of:  
executing a monitor process for

monitoring the resource information; and

taking corrective action if the resource  
information indicates that the availability of a  
resource is below a predetermined level.

1        20. The method of claim 19 wherein the step of monitoring  
2 the resource information comprises the steps of:  
3        monitoring memory resources;  
4        monitoring system resources;  
5        monitoring computer resources; and  
6        monitoring process resources.

1        21. The method of claim 19 wherein the step of taking  
2 correcting action comprises the steps of:  
3        modifying execution parameters of the application program;

4            terminating the application program; and  
5            sending a notification to the user.